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ABSTRACT

This exploratory analysis focused on questions regarding the relationship between student perceptions of the campus climate for diversity, student activities with respect to diversity, and student outcomes from a large Research I university in southern California. Using existing items from the College Student Experiences Questionnaire, dimensions of campus climate and student behaviors were derived using factor analysis. These newly developed climate scales and student behavior typologies were merged with institutional and student transcript data files. A total of 797 students responded to the survey, and the sample was split into historically underrepresented (minority) and not historically underrepresented groups. The regression analysis did not find a significant relationship between campus climate and student activities and grade point average, but this does not necessarily suggest that the campus climate is not related to student outcomes. Prior studies have found that, in some instances, a perceived negative climate actually improved outcomes for some underrepresented groups, a counter-intuitive findings that has been interpreted in terms of resistance theory. To improve this study, it is planned to incorporate additional environmental information into the student outcomes model. (Contains 7 tables and 24 references.) (SLD)

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Analyzing the Relationship between Perceptions of the Research University Campus Climate and Student Outcomes: An Exploratory Analysis

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Introduction and Background

What is the relationship of perceptions of the campus environment, student behaviors, and educational outcomes? This exploratory analysis focuses on questions regarding the relationship between student perceptions of the campus climate for diversity, student activities with respect to diversity, and student outcomes from a large Research I university in southern California. Using existing survey items from the College Student Experiences Questionnaire (CSEQ), six dimensions of the campus climate and student behaviors (five factors were identified for traditionally under-represented students in the sample) were derived using factor analysis. These newly-developed climate scales and student behavior typologies were merged with institutional and student transcript data files to gauge what relationship, if any, can be found between student responses to campus climate survey items, student behaviors and student outcomes such as college GPA and retention. This exploratory investigation used a conceptual framework drawn from college influence models described by Astin, Pace, and Pascarella. An interpretive framework was informed by the perceptual model of student development described by Pace. This preliminary investigation sought to determine if valid and reliable measures of campus climate and student activities and behaviors could be derived from existing survey data so that comparisons could be made between under-represented and majority student groupings. This study also attempted to identify proximal measures of campus climate beyond the more distal structural aspects of the university environment by developing internal scales based on student perceptions, activities and experiences. A major thrust of this study was to develop and operationalize a construct for campus climate to describe the environment experienced by students at the university. This study also attempted to describe the relationship found between the climate and student behavior scales and student academic outcomes.

Policy Basis for this Exploratory Study

Over a decade ago, the University of California Student Association (UCSA) focused attention on the factors that they felt contributed to, or detracted from, an equitable educational environment (Knutsen, 1987). Their review concluded that "differential treatment" and unwelcome campus environments were the principal reasons for the uneven performance of various student groupings in the California higher educational system (CPEC, 1992). This report was the momentum behind the Higher Education Equity Assessment Act of 1988 (Assembly Bill 4071) introduced by Assembly member John Vasconcellos. The legislation required higher education institutions to engage in a systematic study of the causes of student attrition and differential performance. Architects of the legislation also determined that in addition to assessing the perceptions of the campus environments, higher education institutions should attempt to link information on campus climate with existing data on student performance such as grades earned, retention, persistence, transfer and graduation. A primary focus of the legislation was to enjoin California's public higher education segments to assess the campus climate for diversity and the effect of campus climate on student performance.

The legislative and public policy debates around campus climate over the past decade have helped to form the public policy basis for the research questions that guided this exploratory study.

Theoretical Models

In preparing the analytical and conceptual framework for this preliminary study, the literature on college influence and impact models was explored. A review of the rationale, state legislation and accompanying mandates for measuring the campus climate appear to be at least implicitly grounded in perceptual and behavioral models of college influence on students. For

example, the conclusions of the UCSA report, coupled with the legislative response as instantiated by AB 4071, appears to be based on a Perceptual model of student development (Moos, 1979; Pace, 1958). Perceptual models of student development postulate that the definition of the college environment is strongly related to an individual student's perception and interpretation of the campus, whether behavioral, psychological, or social. Although individual student perceptions are subjective and idiosyncratic, in the aggregate they theoretically become and define the culture or climate in which the student lives and interacts.

Perceptual models of the campus environment posit that the perceived environment influences an individual's psychosocial development in a variety of areas and domains (Pascarella & Terenzini, 1991). Defining the campus climate using perceptual measures is premised on the notion that student outcomes are best understood in terms of the interactions and transactions or reciprocal relations between the individual and the campus. Environments are thus viewed as exerting a strong influence on student outcomes as they have the potential to accentuate or diminish perceived differences between individuals and the environment, or between the individual's actual and ideal selves. The greater the discrepancy between the perceptions of actual and ideal self, the more negative the impact on student achievement.

The Perceived Environment

Prior research has referred to the college environment as an "enacted environment." This notion is based on the premise that "participants develop interpretations about the nature of the organization from their social construction of the organization's culture based on historical traditions, current situational contexts, and individual perceptions" (Tierney, 1987 pp. 63-64). From this perspective, the perceptions of the campus climate are pivotal to apprehending the effects of the climate for diversity on the college campus. In recognition of this, the present

investigation uses student behaviors, activities, and perceptions of the campus environment and as indicators of the effect of the perceived environment on outcomes.

In the view of some researchers in the social and behavioral sciences, the difference between reality and perception is not as important as the impact of such perceptions. In his chapter on the effect of college peer groups on student development, Newcomb noted that "People respond to a situation, not necessarily as it 'really' is, but as they perceive it to be" (Newcomb, 1966, p. 3). Twenty years later, Tierney also noted that "participant reality is defined through a process of social interchange in which perceptions are reaffirmed, modified, or replaced according to their apparent congruence with the perceptions of others" (Tierney, 1987, p. 64). Astin (1993) suggests that the perceived environment is both an outcome and a cause of other student outcomes. The perceived environment can be viewed as the product of the interaction effects between the particular characteristics of the college environment and the student's intrinsic values, attitudes, and abilities.

In higher education research, some scholars refer to student linkages with respect to various aspects of the collegiate environment as including: interaction with faculty and peers (Astin, 1993), amount of time spent studying or student effort (Pace, 1984), involvement in campus life (Astin, 1985), and social and academic integration (Tinto, 1987). Further, these scholars also noted that these social interaction processes and activities were found to have a significant effect on student outcomes. Gathering data on the nature of student interaction in the academic and social life of the campus helped this investigation in operationalizing the campus climate and the effect of climate on the outcomes used in this study.

Toward a Definition of Campus Climate

A review of the literature on college impact suggests several ways to conceptualize the climate or culture of the university. As stated by Hurtado et. al. (1999), "to improve the climate, one must conceptualize it in relation to racial/ethnic diversity so that its impact can be assessed." (p. iii). Although a review of the literature suggests the importance of the perceived climate for diversity on the college campus, a single definition of the construct of campus climate does not readily emerge. This section presents some definitions culled from the literature that were used to help guide this investigation.

Earlier definitions of the campus environment were based on structural aspects of the institution. The environment of the college was derived from knowledge of the type of college (research, liberal arts, etc.), institutional control (public, non-sectarian, or private) and selectivity of the college (Pascarella & Terenzini, 1991). The campus environment experienced by the student was also inferred by the size of the institution, expenditures, and prestige. The resource and reputational approaches to defining the campus environment used institutional indicators to sort institutions and served as proxies for the environment experienced by students. These measures were generally comprised of somewhat distal measures of the college environment.

Some of the more recent definitions of campus climate or environment focused on the social interaction of students with faculty, staff, students, and other members of the campus community. Through the use of more sensitive measures of student experiences, behaviors, and cognitive and affective change, social interaction models or perceptual models of campus environment emerged. To some higher education scholars, more accurately identifying the actual experience of students provides more useful, policy-instructive data for colleges seeking to understand and improve the campus climate for diversity and student achievement.

According to Astin (1985), the social interaction of students provides the link between the campus environment and student outcomes. This view appears to undergird the definition proposed by Hurtado et.al (1999) when they state: "In higher education research, the campus climate has been defined as the current perceptions, attitudes, and expectations that define the institution and its members (p. iii). " This definition focuses almost exclusively on the experiential and perceptual attributes of the campus environment experienced by students.

In a campus climate feasibility study conducted by the California Post-Secondary Education Commission (CPEC, 1992), a somewhat similar definition of campus climate was provided:

> "The Commission defined campus climate as the formal and informal environment - both institutional and community-based - in which individuals learn, teach, work, and live in a postsecondary setting. As such, campus climate is a collage of the interpersonal and group dynamics that comprise the experience of participants in a collegiate setting." (pp. 2-3).

The Commission's rather broad definition that also includes community-based experiences is encompassing, however, such a broad definition does not necessarily lend itself well to measurement or developing an operational definition of the campus climate construct. .

A report produced by the American Council of Education (ACE) (Green, 1989). provided another definition and also focused on the role of the campus climate in promoting or hindering student outcomes According to their report, the campus climate "...is the sum total of the daily environment, and central to the 'comfort factor' that minority students, faculty, staff, and administrators experience on campus " (p. 13).

The ACE report suggests that a negative climate for minorities on campus can adversely affect students, and that minorities have a different view of campus life, environment, and experiences than majority students. The authors assert that "students and other members of the

campus community who feel unwelcome or alienated from the mainstream of campus life are unlikely to remain. If they do remain, they are unlikely to be successful" (p. 13).

Implications of Climate Definitions for this Study

As discussed in the preceding sections, the notion of campus climate is frequently referenced, however it is less clear how to measure it. How does one create this construct? How is it made operational? Is it viewed differently by different groups? To answer these questions, this exploratory study re-analyzed student responses to the College Student Experiences Questionnaire (CSEQ) administered at UCSD in 1999 to identify dimensions of the campus climate and student behavior typologies. Campus climate is made operational through the identification of factors derived from student perceptual and institutional data.

The conceptual framework that guided the selection of questions from the survey instrument drew from theory that link social environments with individual personality and responses (Kiecolt, 1988). The selection of some questions was guided by theories of social interaction processes and student involvement (Astin, 1985). This study also relied in part on theoretical frameworks and explanations provided by Hurtado (1990), who developed empirical evidence concerning the relationship of campus climate indicators to various measures such as undergraduate achievement (grades and retention). Hurtado's work in this area provided much grist and guidance for the present study through her use of longitudinal data gathered across four year institutions.

Importance of this Investigation

If there is merit to perceptual models of student development and the effects of perceptual data on student outcomes, then it is important that higher education research focus on the identification of reliable and valid measures of campus climate.

For the research university, the issue of campus climate is particularly important. This is especially true in California, where the demographic growth of high school students from traditionally under-represented groups has proceeded apace (CPEC, 2000). Increasingly the highly selective research universities in California will serve a much higher proportion of traditionally underrepresented students than has been the case in prior years. In the view of many scholars and analysts, the important role of the research universities in preparing students for graduate school and occupational success suggests the importance of a learning environment that is supportive and tolerant. The successful navigation of college by traditionally under-represented students is essential Thus campus climate is a particularly important indicator for the university given the mandates of the California legislature and the role of the university in achieving the goals of the master plan for higher education. The role of the public research university in promoting the aspirations of historically underrepresented students is particularly important.

Over the last several years, selective universities in California have become increasingly concerned with expanding access to higher education for traditionally under-represented student groupings—particularly Mexican-Americans, African Americans, and Native Americans. Beyond expanding access, there is also an increasing focus on the academic outcomes of these groups while they are enrolled at the university. With respect to student cognitive outcomes, much of the emphasis has been on improving student retention and graduation rates. In the past few years, however, there has been growing recognition that these groups tend to be under-represented among students who excel academically on the undergraduate level, e.g., those who graduate with honors /or who graduate with a high GPA, such as a 3.5+ on a four point scale (Bowen & Bok, 1998). It has been suggested that students from these groups often do less well

academically in college than would be predicted by their high school grades, class rank, or college admission test scores. The literature on college influence, together with the notion put forward by the UCSA, suggests that one possible reason for the differences in achievement may be due to differential treatment, or a less than hospitable campus climate. Taking a reading of the campus climate may be one way to determine the possible effect of the climate for diversity on academic outcomes.

Method

Subjects

Perceptions of the campus climate were gathered using the College Student Experiences Questionnaire (CSEQ). The CSEQ is a nationally normed survey instrument that has been used by all segments of higher education to assess the quality of the undergraduate experience, including the level of effort expended by students in pursuit of higher education, and the experiences of students while attending college. The CSEQ was mailed to a stratified random sample of 2,133 undergraduates in the 1999 Spring quarter. A total of 797 students responded to the survey, resulting in a 37% response rate. The margin of error for the total sample was +/- 3%. Individual student codes from the survey were merged with institutional records to gather data on student outcomes such as GPA and retention, as well as additional demographic and educational data. The resulting sample was weighted to approximate the distribution of the student undergraduate population with respect to race and gender. Because students were disproportionately sampled, results were weighted to normalize the respondent pool to the undergraduate population.

For the current study, two groups were created based on ethnicity: historically under-represented students (e.g., African-American, Mexican-American/Latino, Native American) and non-under-represented students (e.g., Asian/Filipino, Caucasian, other). Descriptive statistics for each group, including mean grade point average and retention rates are provided for each group and by ethnicity in Table 1 (note, all referenced tables can be found at the end of this paper).

Analyses

Exploratory Factor Analysis - Principal Components with Varimax Solution:

The purpose of factor analysis is to summarize the interrelationships among a set of variables in a concise but accurate manner as an aid in conceptualization. Using the CSEQ, our intent was to find a set of factors from a series of questions related to campus climate. An initial set of twenty-two items was selected for analysis. Our concern is with establishing major dimensions by which campus climate can be classified. Factor analysis allowed us to search for possible qualitative and quantitative distinctions among these 22 items. We used a principal components with varimax solution. This method of the component model gives the best, least squares fit to the entire correlation matrix, that is, each succeeding factor accounts for the maximum amount of the total correlation matrix obtainable. The procedure attempts to account for all the variance of each variable and is thus assumed that all the variance is a relevant - component factors result.

Internal Analysis of Reliability:

Reliability refers to the degree to which test scores are free from errors of measurement.

Using Cronbach's Alpha, a method for estimating reliability based on the administration of a single test form, we measured the degree of internal consistency for each resulting factor.

Results

The sample was split into two groups, historically under-represented students at UCSD (African-American, Native-American, Mexican-American and Latino) and a group of non-under-represented (Asian, Filipino, Caucasian) students. Two separate factor analyses were computed for each group to see if differences in the resulting campus climate factors occurred.

Under-Represented Students

From the twenty-two items, seven principal component campus climate factors were extracted and rotated by the varimax procedure. After rotation, each of the twenty-two items loaded highly on one factor, i.e., the variables loaded parsimoniously onto the factors. The factors with factor loadings are presented in Table 2. Next, inter-item analyses were then computed on the seven factors in order to estimate the reliability (internal consistency) of each item. Inter-item reliability estimates, applying Cronbach's alpha, are shown in Table 4. As displayed in Table 2, only five of the factors had moderately high to high estimates of reliability.

Relation to Outcomes

For this exploratory study, the scales were compared with student academic outcomes. The purpose was to determine if a relation could be found between indicators of campus climate, inclusiveness, and student activities as measured by the various scales and the outcome variables. Grade point average was coded as a five point scale with

'A'=4, 'B'=3, 'C'=2, D='1', and 'F'=0. Students were tracked over a one year period to determine rates of retention. It was noted at this stage of the analysis that the finding of very high retention rates among students in the sample, although anticipated given the generally high retention rate at UCSD, resulted in this dependent variable being removed from the analysis due to the lack of variability. .

A hierarchical multiple regression analysis was computed to determine which variables loading on each factor accounted for a significant amount of variability in students' grade point average. As shown in Table 6, for under-represented students, only one campus climate variable was found to account for a significant amount of variability (e.g., having discussions with students from a different country). Discussions with students from a different country accounts for only 3% of the variability in grade point average. High school grade point average and the SAT verbal scores account for an additional 6% of the variability in grade point average.

When academic achievement variables are not included in the analyses, (R^2 = .05, ps < .05), 5% of the variability in grade point average is accounted for, including an additional 2% of the variance accounted for. In addition, six of the twenty-two variables account for a significant amount of variability (e.g., Factor II, emphasis on literacy skills, vocational issues and practical value of courses, scholarship, and relationship with staff) as opposed to one. As this study is exploratory in nature, further analyses need to be conducted to include those variables with only high factor loadings.

Non-Under-Represented Students

A six factor solution was found after rotating the factors for the non-under-Represented students as displayed in Table 3. Each of the variables except for one (discussed why some

people get along) loaded highly and parsimoniously on one factor. Inter-item reliability analyses were also computed as displayed in Table 5; four of the six factors had a moderately high to high estimate of internal consistency as measured by Cronbach's alpha.

A hierarchical multiple regression analysis was computed in order to see which variables loading on each factor accounted for a significant amount of variability in students' grade point average. Differing from the under-represented students, results indicated that sixteen of the twenty-five variables, including high school grade point average and SAT scores, accounted for a significant amount of variability in grade point average. As shown in Table 7, for non-under-represented students, high school grade point average and SAT scores account for a larger amount of variability than the campus climate variables, as indicated by the standardized beta weight.

When academic achievement variables are not included in the analyses, ($R^2 = .08$, ps < .01), only 8% of the variability in grade point average is accounted for. In addition, eleven of the twenty-two variables account for a significant amount of variability (e.g., discussions with people of a different race and religion, on-campus relationships with faculty and staff, emphasis on scholarship, literacy skills, and vocational issues).

Although the investigation intended to use two outcome measures of GPA and retention, analysis of the retention rate of the sample revealed virtually no dropout behavior. Nearly every group with the exception of African-Americans showed a retention rate of 98-100%, thus there were too few cases of student attrition for analysis (see table 1). Thus the investigation focused primarily on the outcome measure of college GPA as the dependent variable in subsequent analysis. The first was the grade point average earned by the student. For the GPA measure, students were tracked longitudinally over a two year period to calculate a cumulative GPA

Results of Exploratory Factor Analysis

Factor I is an activities-based measure of student interaction and discussion with students from diverse social, religious, and cultural backgrounds. Factor II is a scaled measure of dealing and actively engaging in diversity issues with respect to readings and professional preparation. Factor III is a measure of relationships developed on campus with faculty, staff and other students. Factor IV is a measure of student friendships and acquaintances with students of diverse backgrounds, beliefs and values. Factor V measures the perceived emphasis placed on scholarship by members of the campus community. Factor VI is an activity based scale that measures student interaction with students of different nationalities and foreign students, while Factor VII measures the degree of self-disclosure and talking about personal issues with other students.

Discussion

Although the CSEQ contains several items pertaining to student perceptions of the campus climate, this exploratory investigation attempted to identify underlying factors represented by the various survey items. This factor analysis revealed the existence of five to six scales that could be used to measure different dimensions of the constructs of campus climate and student behaviors and activities. Identification of these factors enabled the development of corresponding scales comprised of survey items. These scales enabled the researchers to investigate the relationship of these perceptual and experiential constructs of campus climate to educational outcome of GPA. This allowed this investigation to test the effect hypothesized by the UCSA and AB 4071 on the impact of campus climate with respect to the educational outcomes of students, particularly under-represented students.

Although the regression analysis did not find a significant relationship between campus climate and student activities scales and GPA, this does not necessarily suggest that the campus climate is not related to student outcomes. Prior studies (Hurtado, 1990) found that in some instances, a perceived negative climate actually improved outcomes for some under-represented student groupings. This counter-intuitive finding was noted by Hurtado and interpreted using a resistance theory framework described by Giroux . Hurtado suggested that resistance theory may have had an impact for minorities when she found that negative campus environments produced more favorable outcomes. Resistance theory posits that students develop adaptive strategies that allow them to succeed in adverse environments. Hurtado cites research by Giroux (1983) suggesting that resistance behavior represents a critique of the dominant ideology. This suggests that the student response to the campus climate is more complex than the scales or questions used to measure it. This may help to explain some of the findings that negative climate have a more favorable impact on certain outcomes.

To improve this study, it is planned to incorporate additional environmental information into the student outcomes model. For example, at UCSD there is a unique system of undergraduate colleges which allows for a more intimate and personal college experience. Future studies could include the college of enrollment as a mediating environmental variable on student outcomes. Additional environmental variables could include the student's major, or other activities while on campus such as participating in faculty research. Introducing these variables with the climate constructs may reveal significant interaction effects between the college, student major, and perceptions of the campus climate. Identification of the unique environments that produce positive academic outcomes for students may help to illuminate the connections between environmental variables, student perceptions, and academic outcomes.

Campus climate assessments represent a new departure for educational research in California higher education. A new focus is emerging that intensifies the interest in examining the relation between student perceptions of the campus environment for minority students and the outcomes shown by these students. This preliminary investigation attempts to link student perceptions and indicators with educational outcomes and attempt to explain the findings and the implications of these findings for researchers and policymakers.

As our campuses experience greater diversity in terms of student backgrounds, campus climate assessments represent an important direction for college impact research in California higher education. Current efforts at recruiting and retaining a diverse student body has intensified institutional interest in examining the relation between student perceptions of the campus environment and academic achievement. This investigation presents research that links the campus climate indicators with student outcomes and explains the results and the implications of these findings for higher education scholars and policymakers.

The highly selective research university perhaps faces the greatest challenges in demonstrating how the campus environment either promotes or detracts from the success of minority students. The high entering abilities of students as indicated by high school grade point average (GPA) and scores on achievement tests, may serve to confound the study of environmental effects on student outcomes such as college GPA and retention. However, it is hoped that this analysis will stimulate discussion of the role of the research university and the specific challenges they face in translating the relation of campus climate indicators and educational outcomes into policies designed to promote the educational progress of all students.

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Table 1

Descriptive Statistics of Participants in the Study

Group	N	One-Year Retention Rate	Mean GPA	SD
Under-Represented				
African-American	62	88%	2.78	.54
Mexican-American	355	100%	2.80	.52
Native-American	35	100%	2.80	.46
Latino	139	100%	3.02	.45
Total	591	99%	2.85	.51
Non-Under-Represented				
Asian	1,830	98%	2.95	.54
Filipino	430	100%	2.90	.51
Caucasian	2,180	98%	3.13	.48
Other	730	94%	3.04	.46
Total	5,170	97%	3.04	.49

Table 2

Rotated Principal Components for Campus Climate Variables for the Under-Represented Students

	Factors						
Variables	1	2	3	4	5	6	7
1. ENVADM	-.004	. 211	-.08	**.823**	.132	.101	.038
2. ENVFAC	-.007	.162	.083	**.778**	-.064	.094	.081
3. ENVSTU	.147	.260	.293	**.527**	-.243	-.016	-.269
4. ENDIV	-.002	**.671**	.135	.206	-.208	-.042	-.144
5. ENVESTH	.128	**.670**	.185	.082	-.079	.134	-.036
6. ENVINFO	.073	**.663**	-.045	.002	.237	.236	.081
7. ENVPRAC	.002	**.709**	-.016	.349	.016	.110	.027
8. ENVVOC	.109	**.708**	-.079	.069	.271	.091	.089
9. ENVCRIT	-.029	.330	.-14	.088	-.038	**.755**	.020
10. ENVSCH	.065	.093	.038	.101	-.079	**.854**	-.003
11. PERS2	.177	-.069	-.012	.052	.143	-.175	**.625**
12. PERS8	.177	-.069	-.012	.052	.143	.087	**.771**
13. STACQ1	.354	.015	**.584**	.127	.034	.116	.247
14. STACQ2	.216	.088	**.775**	.094	.242	-.007	.093
15. STACQ3	.182	-.021	.216	.088	**.724**	-.085	.037
16. STACQ4	.071	.021	**.813**	-.045	.186	.044	-.098
17. STACQ5	.167	.226	.287	-.168	**.682**	-.070	-.522
18. STACQ6	**.814**	.103	.193	.104	.192	.019	.091
19. STACQ7	**.803**	-.056	.-39	.-24	.138	-.066	.157
20. STACQ8	**.762**	.050	.188	.029	-.040	.077	.140
21. STACQ9	**.690**	.050	.188	.080	-.040	.008	-.020
22. STACQ10	**.648**	.245	-.062	-.133	.227	.028	-.107

Table 3

Rotated Principal Components for Campus Climate Variables for the Non-Under-Represented Students

	Factors					
Variables	1	2	3	4	5	6
1. ENVADM	.507	.057	.068	.092	.145	**.588**
2. ENVFAC	.424	.106	.087	.025	.198	**.626**
3. ENVSTU	.424	.161	.420	-.077	-.041	.357
4. ENDIV	**.603**	.114	.231	-.198	.018	.102
5. ENVESTH	**.739**	-.040	.040	.023	.076	.041
6. ENVINFO	**.516**	-.050	-.042	.152	.422	-.110
7. ENVPRAC	**.818**	-.031	-.012	.067	.115	.011
8. ENVVOC	**.788**	-.042	-.049	.137	.120	-.19
9. ENVCRIT	.325	.033	.125	-.125	**.699**	.118
10. ENVSCH	.082	.072	-.019	-.009	**.836**	.134
11. PERS2	-.002	.310	**.407**	-.143	.192	-.369
12. PERS8	.255	.128	.043	.156	-.077	**-.536**
13. STACQ1	.076	.188	**.720**	.067	-.041	.046
14. STACQ2	.031	.259	**.816**	.083	.019	-.030
15. STACQ3	.007	.033	**.550**	.452	.134	.069
16. STACQ4	.043	.169	**.739**	.186	.004	-.009
17. STACQ5	.091	.111	.267	**.785**	-.078	-.048
18. STACQ6	.015	**.781**	.179	.103	.051	-.014
19. STACQ7	-.024	**.821**	.117	.090	.019	-.021
20. STACQ8	-.004	**.818**	.151	.082	.075	.017
21. STACQ9	.051	**.664**	.356	.156	-.063	-.014
22. STACQ10	.046	.419	.076	**.719**	-.047	-.043

Table 4

Estimates of Reliability for Each Factor for the Under-Represented Students

Factors	r_{xx} if item deleted	r_{xx}
Factor 1: Discussions (different race, values, religion, politics)		.829
STACQ6	.758	
STACQ7	.789	
STACQ8	.791	
STACQ9	.794	
STACQ10	.835	
Factor II : Issues with diversity, literacy skills, vocation		.778
ENVDIV	.759	
ENVESTH	.735	
ENVINFO	.753	
ENVPRAC	.710	
ENVVOC	.727	
Factor III: On-Campus Relationships (faculty, staff, students)		.684
ENVADM	.546	
ENVFAC	.534	
ENVSTU	.696	
Factor IV: Diversity (acquainted with people different from self)		.727
STACQ1	.720	
STACQ2	.497	
STACQ4	.684	
Factor V: Emphasis on Scholarship		.641
ENVCRIT	.00	
ENVSCH	.00	
Factor VI: Diversity (nationality and age)		.576
STACQ3	.00	
STACQ5	.00	
Factor VII: Discussed Personal Issues		.292
PERS2	.00	
PERS8	.00	

Table 5

Estimates of Reliability for Each Factor for the Non-Under-Represented Students

Factors	if item deleted	r_{xx}
Factor I: Discussions (different race, values, religion, politics)		.828
STACQ6	.776	
STACQ7	.774	
STACQ8	.766	
STACQ9	.815	
Factor II: Issues with diversity, literacy skills, vocation		.791
ENVDIV	.789	
ENVESTH	.743	
ENVINFO	.781	
ENVPRAC	.713	
ENVVOC	.723	
Factor III: On-Campus Relationships with faculty & staff		.535
ENVADM	-.001	
ENVFAC	.081	
PERS8	.763	
Factor IV: Diversity (acquainted with people different from self)		.747
PERS2	.776	
STACQ1	.685	
STACQ2	.627	
STACQ3	.732	
STACQ4	.671	
Factor V: Emphasis on Scholarship		.586
ENVCRIT	.00	
ENVSCH	.00	
Factor VI: Discussions (People of different nationality)		.697
STACQ5	.00	
STACQ10	.00	

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Grade Point Average for Under-Represented Students

Variable	B	SE B	β
STACQ10	-0.54	.017	-.145
HS GPA	.292	.074	.182
SAT Verbal	.0008	.000	.128

Note. $R^2 = .08$ (ps $\leq .00$); only three of the twenty-five predictor variables were found to account for a significant proportion of variability.

Table 7

Summary of Hierarchical Regression Analysis for Variables Predicting Grade Point Average for Non-Under-Represented Students

Variable	B	SE B	β
ENVESTH	-.002	.005	-.067
ENVDIV	.010	.004	.037
STACQ8	.033	.006	.106
STACQ9	-.014	.006	-.045
STACQ6	.016	.005	.053
STACQ4	.039	.007	.111
STACQ2	-.044	.007	-.129
STACQ3	-.001	.005	-.005
STACQ5	-.026	.006	-.008
STACQ10	-.020	.006	-.056
ENVSCH	.018	.006	.042
ENVADM	-.021	.005	-.071
HS GPA	.664	.023	.396
SAT Verbal	.0008	.000	.144
SAT Math	.0007	.000	.108

Note. $R^2 = .29$ ($ps \leq .00$); sixteen of the twenty-five the predictor variables were found to account for a significant proportion of variability.

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